First Marine International

a company of

Royal HaskoningDHV
Enhancing Society Together

Tractus
Building Global Business

UNITED STATES VIRGIN ISLANDS
Economic Development Authority

USVI shipyard feasibility study

Summary of findings

May 2024



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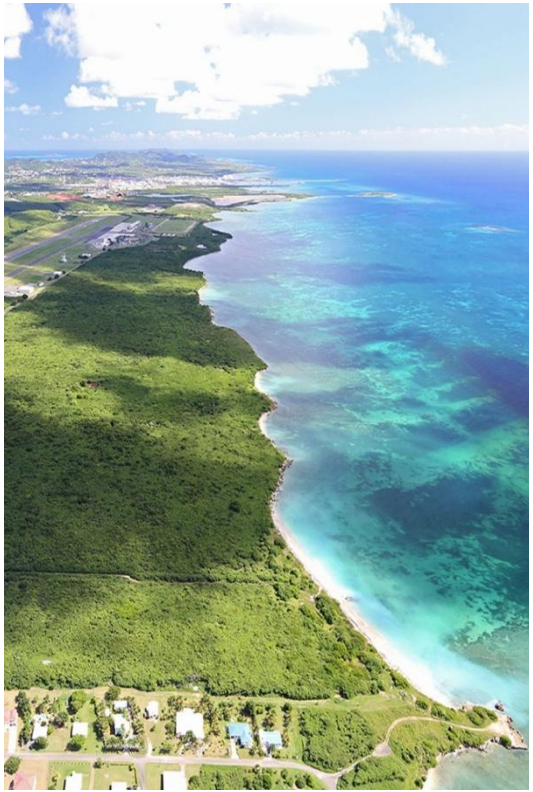
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Project overview

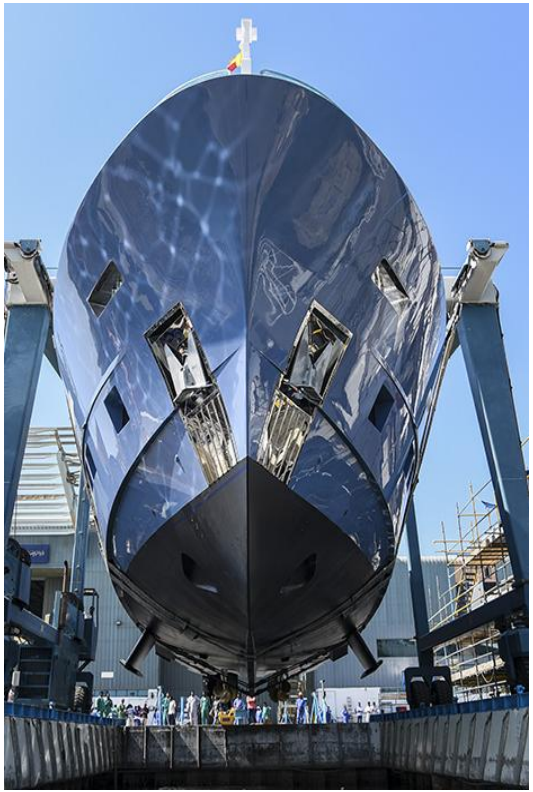
- The United States Virgin Islands Economic Development Authority (USVIEDA) is considering the development of a shipyard in the South Shore Trade Zone (SSTZ) on the island of St. Croix.
- First Marine International (FMI), a company of Royal HaskoningDHV (RHDHV), and supported by Tractus, has been commissioned to carry out a pre-feasibility study.
- The pre-feasibility study scope is designed to provide USVIEDA with the information needed to decide whether there is a market opportunity for a new ship repair yard, and to provide an initial view on the conditions required for financial viability.
- Should the opportunity look attractive based on estimated revenues and costs, a decision can then be made by USVIEDA to invest in a subsequent study phase.
- The study is split into two volumes:
  - **Volume one:** Comprising the market study, site selection, notional arrangement, cost estimate and a view on where financial viability may lie.
  - **Volume two:** Comprising stakeholder engagement, regulatory and environmental considerations, military opportunities and local economy impacts.



What the study indicates

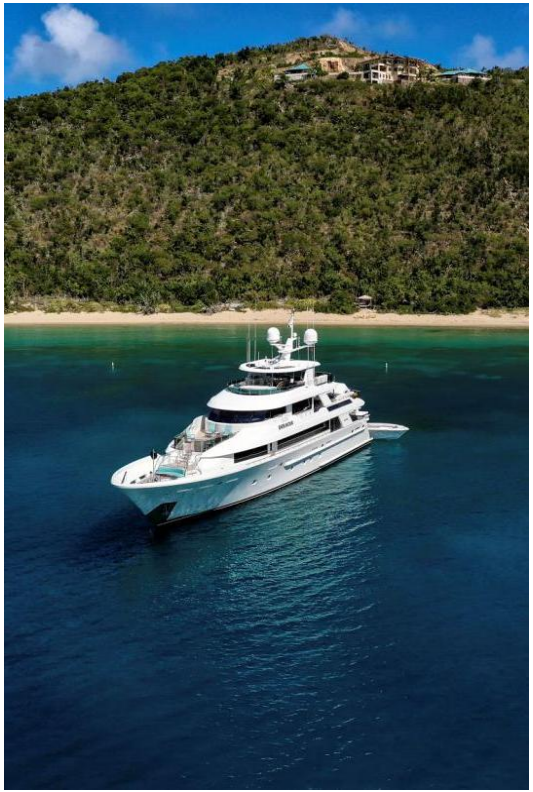
An opportunity for a phased ship-repair facility for vessels up to 100m appears to offer an optimal balance of market potential, differentiation and investment.

- St. Croix's location sees high volumes of passing traffic of all sizes. Locally-calling vessels are generally smaller in size, and the leisure segment is well represented.
- Opportunities for repair of vessels under 574 ft (under 175 m) in length appear more favorable.
- High-value repair opportunities tend to be for yachts between 164-328 ft (50-100 m) in length.
- Three docking configurations were developed, supporting vessels up to approximately 164 ft (50 m), 328 ft (100 m), and 574 ft (175 m).
- A commercial repair facility with an upper vessel size limit of 328 ft (100 m) appears to provide an optimal balance.
- Financial performance is expected to depend on market capture, utilization, capital costs, phasing, site conditions, workforce availability, and the availability of grant or other external funding support.
- The findings support progressing to the next stage of development, including validation of costs and demand, investigation of funding options, refinement of the financial model, and preparation of a formal business case and masterplan.



Market study and site selection

- St. Croix's location sees high volumes of passing traffic in all size ranges. Locally-calling vessels are generally smaller in size, and the leisure segment is particularly well represented.
- Opportunities for repair of commercial vessels under 574 ft (under 175 m) in length and leisure vessels appear more favorable. High-value repair opportunities tend to be for vessels under 328 ft (under 100 m), many of which are likely to be yachts of between 164-328 ft (50-100 m) in length.
- The preferred site identified during site selection has a waterfront that naturally supports a maximum vessel size of 574 ft (175 m), but a limit of 328 ft (100 m) would make the best use of existing infrastructure.
- The market study analysis and characteristics of the preferred site have been used to guide the creation of three docking configurations (e.g., principal facilities and resulting market capture). Along with an indicative estimate of the required CAPEX, associated throughputs and revenue.



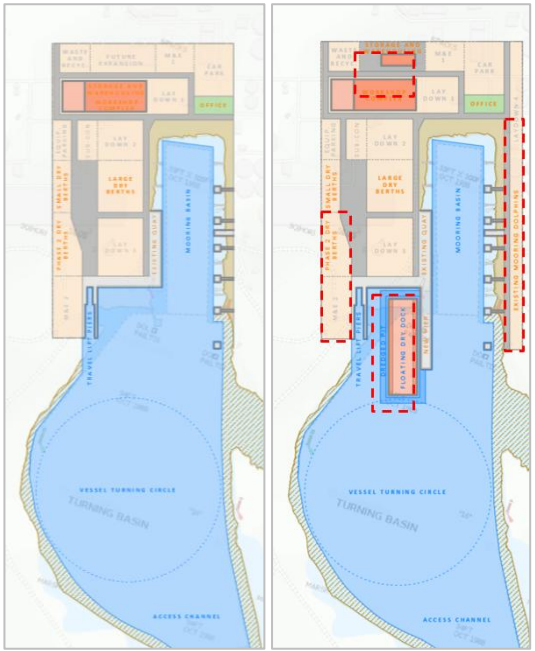
Notional arrangements and financial evaluation (1)

- Docking configurations considered upper vessel length limits of 164 ft (50 m), 328 ft (100 m) and 574 ft (175 m). A CAPEX estimate was produced for each using an international database of cost rates. At a later stage, local quotations are recommended to further validate rates for specialized infrastructure projects on an island location.
- An initial view on financial viability suggested a marginal outlook for most scenarios. Refinements to the financial scenarios, including phasing, purchase of used equipment and assumptions on site remediation costs were then tested to try and improve the outlook.
- The refined outlook suggested a commercial repair facility with an upper vessel size limit of 328 ft (100 m) has the potential to be more financially attractive. Docking capability for vessels over 230 ft (70 m) would also be a key differentiator from the nearest competitor yard (Subbase).
- Accommodating vessels >328 ft (>100 m) in length appears to give a slightly less positive financial outlook; however, strategic influences and stakeholder requirements for docking larger vessels may mean this needs to be considered at the next stage.



Notional arrangements and financial evaluation (2)

- The configuration limiting vessels to 164 ft (50 m) appeared to have a more marginal financial outlook. However, initial skills and labor availability are potentially more suited to this configuration which would also require less initial CAPEX. The 164 ft (50 m) configuration is designed to provide the flexibility for larger vessel infrastructure in future phases, if workforce availability and growth ambitions support its development.
- The initial view on financial viability suggests a positive IRR and NPV may be achievable under certain scenarios, though the outlook could be considered marginal in many instances. However, securing grant funding or support from the Inflation Reduction Act could transform what is currently a marginal outlook into a more financially viable business.
- In addition to considering standalone financial viability, shipyards create significant direct and indirect income and multiplier effects which support local employment and economic activity. These benefits may be an important factor in the wider rationale to proceed.
- Based on the findings, a new ship repair facility has the potential to be viable. It is suggested USVIEDA considers additional studies to further validate the CAPEX and investigate the opportunities for alternative funding sources, before developing a formal business case, detailed financial model, and Pre-FEED design (Front End Engineering Design).



Initial phase: Under 164 ft (<50 m) vessels

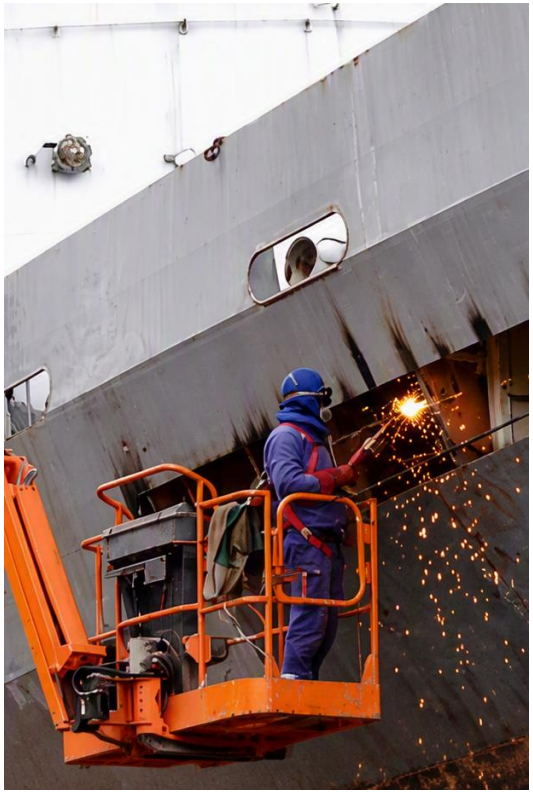
Second phase: Under 328 ft (<100 m) or under 574 ft (<175 m) vessels (expansion areas bounded in red)

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Stakeholder engagement – Workforce

Workforce structure

- The workforce size and structure will vary based on the overall strategy for labor and manning that is used.
- This will depend on subcontracting strategies and the overall docking configuration of the shipyard.
- Global shortages of appropriately skilled personnel means training schemes and development pathways are crucial.
- The approach to recruiting skilled and experienced personnel needs to be carefully considered.
- Similarities to other industries can be harnessed to find examples of how to establish and maintain a skilled workforce.
- Competitive salary packages, long-term development of personnel, benefits and inclusive and rewarding work is crucial to employee retention.
- The USVI has an existing skill-pool in several relevant areas, which could all provide skills, labor and support to a new shipyard.
- There are opportunities for VIDOL to play a role in supporting the training and upskilling of the existing USVI workforce.



Stakeholder engagement – Education & training

Education and training

- Further education will be critical to developing the shipyard workforce. UVI offers STEM and engineering related study routes, however these do not include specialist courses (e.g., marine/nautical degrees).
- Development of a certified workforce is fundamental to the success of any shipyard. Consideration of how the USVI can establish training pathways (e.g., apprenticeships specializing in ship repair skill sets) will be key.
- UVI could consider creating partnerships with existing specialist universities and Community Colleges based on the mainland U.S.
- The existing St. Croix industrial base supports multiple industries, including the southern port. Understanding any existing training links and programs could support the development of training pathways for any new shipyard.
- The U.S. DoL and U.S. EDA have many sources of funding for training programs, particularly apprenticeships and youth training.
- Several local training providers have already established themselves in the islands and could be approached as partners.



Regulatory considerations

- A detailed review of the relevant U.S. federal laws and USVI regulations is required; however, the shipyard and its work/operations should comply with, or account for, the following requirements:
  - 33 CFR Part 126 Handling of Dangerous Cargo at Waterfront Facilities
  - 40 CFR Part 63 National Emission Standards for Shipbuilding and Ship Repair (Surface Coating)
  - U.S. Virgin Islands Code (Title 12 and 19 as a minimum)
  - USVI Territorial Pollutant Discharge Elimination System (TPDES) Rules and Regulations
  - IMO MARPOL Annexes I to VI
  - IMO AFS Convention
  - IMO Ballast Water Management Convention
  - IMO Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships



Environmental considerations

- As best practice, the shipyard should have the following:
  - Health, Safety and Environment manual and system, incorporating:
  - An Environment Management System according to ISO 14001.
  - An Oil pollution emergency plan.
  - Quality Management System and Quality Assurance policy.
  - Garbage/waste management plan and system.
  - It should be noted, that as the yard will be aimed at the yacht market, in recent years there has been a spotlight of their environmental impact.
  - There have been numerous magazine articles and reports highlighting the importance of “shipyards going green”, as Owners and crew members look to choose the premium option of an environmentally considerate shipyard.
  - Therefore, incorporating marine industry best practices could be key to standing out.



Military opportunities and the Jones Act

- **Military opportunities:** As can be seen a large number of rules and regulations follow naval vessel maintenance, therefore, to make this a viable option for the new shipyard, the Navy or USCG would need to provide some indication that they would consider using the facility. This should therefore be an aspirational option for the new shipyard, that is worked towards as a goal, should the market be feasible.
- **Jones Act:** With the USVI being exempt, this can be viewed both positively and negatively. When considering ship repair and maintenance, there is little impact from the Jones Act regulations. However, the USVI, when compared to Puerto Rico, Hawaii and Alaska, can benefit from lower shipping costs, more diverse trade partners and greater access to international markets. Negatives can include security risks from foreign flagged vessels that may not comply with U.S. laws and regulations.
- Ultimately this provides the USVI with more economic opportunities and flexibility, but it also poses some challenges and risks for its maritime sector and security interests. Neither factor appears to outweigh the other significantly.



Impact on the local economy

- **Regional investment incentives:** Incentives across the region offer low or no tax for qualifying activities. Although there are no specific incentives for a shipyard or marine activity in each jurisdiction, each does cover industrial activity or manufacturing. In short, most incentives fall within close range of the other jurisdictions. Key differentiators include items such as “Made in USA” label, cost of labor and scale of workforce.
- **Federal government grants:** Federal grant programs have long been a viable source of funds for strategic projects within the USVI. Based on a review of potential grants that would support a shipyard activity, 25 programs have been identified. The grants are administered by the U.S. Department of Transportation (US DoT), the Federal Emergency Management Agency (FEMA), U.S. Economic Development Administration (EDA), Build America Bureau, U.S. Fish & Wildlife Service (US FWS), the U.S. Environmental Protection Agency (US EPA), and the U.S. Department of Labor (US DoL). Many of these grant programs are on annual or periodic cycles for application and approval.
- **Economic and employment benefits:** The development of a shipyard on St Croix could drive a great deal of economic activity (direct and indirect) from the construction phase through to the operational phase. As an anchor activity in the South Shore Trade Zone, it may also drive additional related investment.



Conditions for success and next steps

- The opportunity appears to have the potential to be viable, but the preferred development approach and investment case should be refined as further market, technical, workforce, and funding information becomes available.
- Financial performance will depend on the final configuration, market capture, utilization, capital costs, phasing, workforce availability, and funding structure.
- Appropriate phasing, external funding, and the potential use of existing equipment could strengthen the investment case.
- Further validation of demand, capital costs, site conditions, workforce requirements, and funding options should support the next stage of business-case and masterplan development.
- Military repair should be treated as a longer-term strategic opportunity, subject to future Navy or USCG engagement and not assumed as guaranteed demand.
- If the 175 m / 574 ft capability is retained as an option, the site's approximate physical limits—32 m / 105 ft beam and 9 m / 30 ft draft—should also be recognized.
- The configuration decision may remain open while the availability and cost of used floating docks are investigated; a preferred configuration will be required before the masterplan is developed.

